Roundup® ProBio

User Guide

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These notes are not a substitute for reading the label. They are intended to add to the essential label directions and help you achieve the best results from using the product. Use herbicides safely. Always read the label and product information before use.

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Roundup® ProBio

Product Introduction

What is Roundup ProBio

Roundup ProBio is a patented potassium salt formulation containing 360gai/l glyphosate and a unique blend of two surfactants. The optimised blend of surfactants delivers highly efficient activity at the leaf surface and a synergistic improvement in glyphosate uptake and overall performance.

Roundup ProBio incorporates a high technical specification and the formulation has been designed to address stewardship aspects, so vital now for glyphosate application.

How Roundup ProBio works

Roundup ProBio is a herbicide which is sprayed on to green leaves where it is absorbed and drawn into the plants vascular system. It then stops the production of the amino acids which build the protein the plant needs to grow and survive. The plant effectively starves to death.

Safety profile

Roundup ProBio

Non hazardous as classified by COSHH

Incorporates drift reduction properties

Does not

- Cause cancer
- Cause birth defects
- Affect reproduction
- Is not allergenic nor is it a sensitiser

Environmental profile

Roundup ProBio loses its herbicidal effect on contact with soil. It binds tightly to the soil therefore does not leach. It is degraded by micro organisms in the soil into natural substances, namely nitrate, phosphate, water and carbon dioxide.

Roundup ProBio

- Does not bioaccumulate
- Is not absorbed by digestive systems
- Does not adversely affect soil micro organisms
- Does not leach
- Does not harm fish
- Is unlikely to contaminate surface water

Conservation uses

Roundup ProBio does not have any herbicidal activity in soil. It does not harm wild life, pets, fish or invertebrates. Because of its safety and environmental profile it was chosen to rescue the following internationally important archaeological and wildlife sites.

The Italian Government chose Roundup to remove the vegetation which was damaging Pompeii.

Roundup was selected for use at Lindisfarne to remove Spartina which was displacing the natural goose grass essential to the survival of migrating geese and wildfowl.

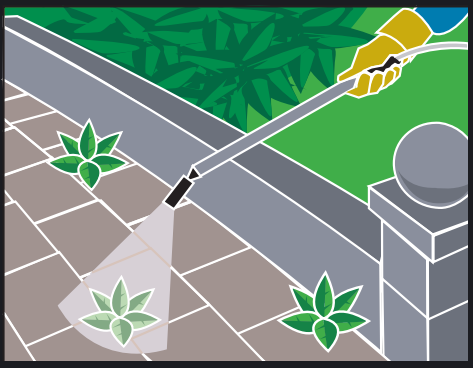
Pompeii

Lindisfarne

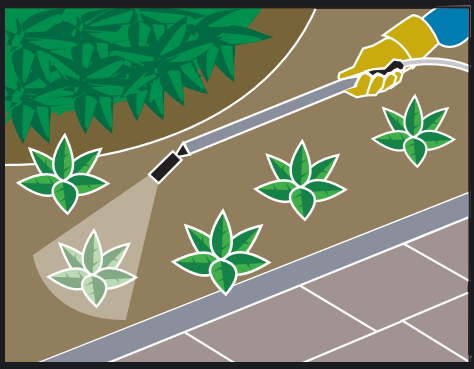
Recommended uses of Roundup ProBio

As a foliar applied spray, directed at green and growing vegetation. Used at the correct rate Roundup ProBio will kill the whole plant including the root.

- On paved areas to “spot treat” weeds
- On path edges to create a mowing margin
- To remove weeds on gravel paths
- To control weeds round the base of trees, shrubs, and hedge bases so that the plants do not have to compete with weeds for water and nutrients
- To clear vegetation from land prior to planting

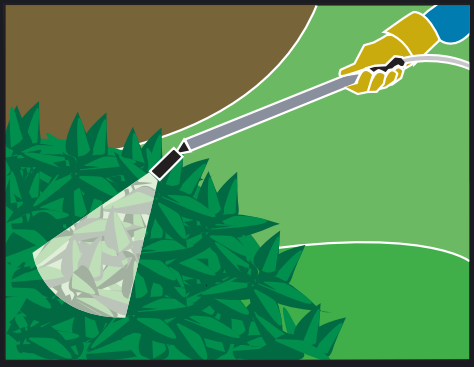


Paths, Path Edges and Fence Bases



Weed Clearance

Tree Bases



Clearing Unwanted Vegetation

Getting the best from Roundup ProBio

Roundup ProBio can be used at any time of the year as long as the target weeds are green and actively growing.

The time taken for the herbicide to take effect is influenced by climatic conditions. For example, in summer, when growth is vigorous, the first effects are visible after 7 days. In early spring or winter when growth is slow it can take 3-4 weeks before symptoms appear.

When growth conditions are good the effect is quicker.

When growth conditions are poor the effect is slower.

The ideal time to spray is when it is dry, mild and humid. In these conditions plant surfaces are soft and the plant is circulating nutrients quickly. Avoid spraying if plants are frost covered, or dried out by drought conditions.

Do not spray if it is raining or if rain is expected, or the herbicide will be washed off the leaves before it has had time to penetrate the leaf surfaces. Do not spray when it is windy as you risk damage to other vegetation caused by drift.

Choose a calm day when you can direct your spray output accurately. When spraying hard surfaces you will find you are walking over the sprayed area. You will pick up herbicide on the soles of your footwear. Do not walk over grass or you will kill the grass you step on. Scuffing your boots on an untreated hard surface or untreated bare soil deactivates the herbicide and avoids the problem as long as the soles of your boots are dry before walking on grass.

Getting the best out of your sprayer

Before use, wash out, part fill with water, pressurise the knapsack and check that all hoses and joints do not leak.

If your sprayer has a variable nozzle adjust the nozzle to produce a spray that gives good weed cover, does not drift and is easily seen.

Test spraying a window with water will allow you to see if you have achieved even coverage. The objective is to achieve even coverage, by minimising large droplets which run off, and minimising small droplets which are prone to drift.

Choose a nozzle with a narrow swath width for accurate application such as around trees or for spot treatment. Remember you can only apply as a directed spray to weeds growing on non-porous hard surfaces such as asphalt, concrete and paved areas. You can spray 30cms strips along pavement edges but never overspray drains.

Choose only nozzles producing a medium or coarse spray quality and make sure you do not exceed the specified height above the target. This will help you minimise drift and spray more accurately.

120 degrees nozzles are best reserved for broad band work such as treating gravel paths which are well covered by emerging weeds.

See label for nozzle recommendations.

Correct spray mix concentration

Assess your weed target first. Decide if you need to control annual or deep rooted perennial weeds.

Depending on the nozzle you are going to use, either conventional or low volume, decide whether you are going to use conventional water volumes of 200 lit/ha. or low water volumes of 100 lit/ha. (Please refer to label for nozzle descriptions)

For 200 l/ha

For annual weeds you need to apply 3 litres/ha
Add 15 ml of Roundup ProBio to 1 litre of water

For perennial weeds you need to apply 5 litres/ha
Add 25 ml of Roundup ProBio to 1 litre of water

For 100 l/ha

For annual weeds you need to apply 3 litres/ha
Add 30 ml of Roundup ProBio to 1 litre of water

For perennial weeds you need to apply 5 litres/ha
Add 50 ml of Roundup ProBio to 1 litre of water

Calculate spray mix volume

Using a standard nozzle

Applying 200 litres of spray mix per hectare, a 20 litre knapsack covers 1000 square metres.

2 litres of spray mix will cover 100 square metres.

1 litre of spray mix will cover 50 square metres.

Using a low water volume nozzle

Applying 100 litres of spray mix per hectare a 20 litre knapsack covers 2000 square metres.

2 litres of spray mix will cover 200 square metres.

1 litre of spray mix will cover 100 square metres.

Measure the amount of ground you need to treat in square metres and make up enough spray mix to treat it.

- Only make enough spray mix to treat the area you plan to spray.
- Wear suitable protective gloves when handling the concentrate.
- Reseal the herbicide bottle after use and store it safely.

Filling the sprayer

- Half fill the sprayer tank with clean water.
- Add the measured product.
- Rinse the measuring vessel and the product container if it has been emptied and pour the rinsings into the tank.
- Fit the tank lid and gently shake the sprayer by rocking to ensure thorough mixing.
- Remove the lid and top up with water to the correct level.

Spraying notes

- A pressure regulating valve is recommended. This allows you to control the pressure at the spray nozzle.
- When using conventional nozzles set the regulating valve at 2 bar.
- When using a low water volume nozzle set the regulating valve at 1.5 bar.
- If your sprayer does not have a regulating valve set the internal switch on your knapsack at the high pressure setting if using a conventional nozzle and at the low pressure setting if using a low pressure nozzle. Do this before filling the Knapsack.
- Walk at a speed which allows you to apply the required amount of spray mix, as calculated, to the area to be treated. Spray the calculated amount evenly over the area to be treated.
- When you have finished spraying, triple rinse your measuring jugs into the sprayer, add clean water to your sprayer and spray out over waste ground.
- Then double rinse your sprayer to clean it spraying all the washings out on to waste ground.
- Put your tightly sealed Roundup ProBio bottle and your triple rinsed measuring jug into a sealed container and store away from food, drink and animal feeding stuffs and out of reach of children.

For more useful spraying and calibration information visit The Crop Protection Association amenity website www.amenity.org.uk or the Amenity Forum website www.amenityforum.co.uk

Usage tips

Spot treatment of paved areas

Wait until the weeds have emerged. Using a narrow band nozzle spray over the weeds. The best time to spray is after the spring flush of new weeds. At this time you will take out both over wintering weeds and the spring flush.

Path edges

This task is best done with a narrow band nozzle. Do the work when there is no wind, and keep the spray head steady to achieve a straight edge.

Gravel paths

A 120 degree nozzle will allow you to work with a metre swath. Having already done the edges with a narrow band nozzle you can walk steadily down the path rapidly treating the emerged weeds.

Trees and Shrubs

Trees

A standard tree requires a metre diameter clear space to optimise its uptake of water and nutrient. A whip requires a half metre diameter clear space. Creating and maintaining clear soil at a tree base and so removing weed competition helps newly planted trees to rapidly establish. Research shows that newly planted trees kept weed free, grow faster and establish more quickly. Keeping tree bases clear also reduces the incidence of vole damage to new trees.

We recommend that planting spaces are treated prior to planting. The rate for pre plant treatments should be 5 litres/ha to remove any deep rooted perennial weeds.

After planting use a narrow band nozzle to maintain weed free conditions.

If weeds post planting are annuals you should reduce the application rate to 3 litres/ha.

Take care not to spray the bark, since trees less than three years old can be damaged. At this growth stage their bark is not thick enough to protect them from the product. Avoid green stems.

Shrubs

Roundup ProBio can be used to clear areas prior to planting. This should be done at 5 litres/ha. After planting any emerging weeds can be taken out by using a directed spray. It is advisable to use a spray hood to avoid spraying the shrubs. If you accidentally spray a shrub, snip off the sprayed vegetation so that the Roundup ProBio does not translocate into the plant and damage it.

Hedges

As with shrubs pre treating a hedge line before planting minimises weed control problems after planting. This should be done at 5 litres/ha. After planting, spot treatment at 3 litres/ha will keep the hedge base free of weed competition. Application should be as a carefully directed spray since spraying the stems of newly planted hedging will damage them. Do not use on wild hedge bottoms. These are a valuable habitat for wild flowers.

Rhododendrons: before treatment

Rhododendrons: after treatment

Pre plant treatments

Roundup ProBio does not contaminate soil. It is widely used to clear unwanted vegetation from allotments prior to working the soil and planting, or (as in previous section) prior to planting trees or shrubs, or prior to sowing wild flowers.

The rate used should be 5 litres/ha to remove mixed annual and perennial weeds. Replanting can take place 7 days after weed treatment.

Stump treatment

Roundup ProBio can be used to treat stumps of brush or trees after removal. Its function is to kill the stump and avoid it shooting. For deciduous trees paint on a 10% product solution in water. For evergreens use a 20% solution in water.

This should be done immediately after cutting in the period November to March/April. Do not use this technique in the period of active sap flow in spring or early summer.

Paddock care

Roundup ProBio can be used very effectively to spot treat Dock, Thistle, Nettle, and Ragwort in paddocks. The best time to do this is when the plants are in flower or just after flowering. Use 5 litres/ha. Spray accurately since you will destroy any grass you accidentally spray.

Keep livestock out of the treated area until you have removed all the treated Ragwort. This is a very poisonous plant which is not eaten by livestock when it is green and growing, but when cut or treated with herbicide, it becomes palatable.

It may help to mark sprayed Ragwort, and keep stock out until you have removed the treated plants.

People, pets and wildlife need not be kept out of treated areas. It is best not to walk in areas where the spray is still wet as transfer to other vegetation may lead to unwanted damage to other foliage. Once the spray is dry this cannot occur.

Roundup® ProBio

- Effective and efficient long term weed control
- Superior performance in challenging conditions
- Non-hazardous as classified by COSHH
- Incorporates drift reduction properties
- Rainfast from 1h
- Reliable effectiveness in hard water conditions

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